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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,868	03/03/2004	Takashi Takamura	118576	3126
25944	7590	07/21/2005	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			LOUIE, WAI SING	
			ART UNIT	PAPER NUMBER
			2814	

DATE MAILED: 07/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/790,868	Applicant(s) TAKAMURA, TAKASHI	
	Examiner Wai-Sing Louie	Art Unit 2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 3-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant elects Group I, claims 1-7 drawn to a solid state-imaging device with traverse. The applicant argues that there would be no serious burden in examining both groups. However, Group I is drawn to a solid state imaging device and Group II is drawn to a method of forming the device. The Inventions Group I and Group II are related as process of making and product made and the inventions Group I and Group II belong to different classes, which require separate searches and considerations. The separate searches and considerations for each group would provide a burden on the examiner. As such, the restriction is proper and the restriction is final. It is suggested that non-elected claim 8 be canceled in the response to this Office Action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-n are rejected under 35 U.S.C. 102(e) as being anticipated by Shizukuishi (US 6,781,178).

With regard to claim 1, Shizukuishi discloses a solid state image pickup device (col. 5, line 15 to col. 12, line 25 and fig. 3a), comprising:

- A pixel array having a plurality of pixels arranged in a matrix (fig. 1a); each of the pixels including:
 - A photodiode PD. Although, Shizukuishi does not specifically state that a photodiode that generates carriers depending on the intensity of the incident light. However, since Shizukuishi discloses the claimed structure, it is clear that such a structure results in the photodiode that generates carriers depending on the intensity of the incident light and is thus an inherent feature of the claimed solid state image pickup device;
 - An accumulation region that accumulates the generated carriers (col. 4, lines 16-22 and fig. 3a);
 - An insulated-gate output transistor (read gate RG) that outputs a signal according to a threshold voltage that changes depending on a number of the carriers accumulated in the accumulation region (col. 5, lines 15-23 and col. 9, line 63 to col. 10, line 2);
 - An insulated-gate clear (write gate WG) transistor that discharges the carriers accumulated in the accumulation region, the accumulated carriers being discharged through a channel region of the clear transistor (col. 9, lines 52-62 and col. 10, lines 33-40).

With regard to claim 2, Shizukuishi discloses the accumulation region 25 functioning as a source region of the clear (write) transistor (fig. 3a).

Allowable Subject Matter

Claims 3-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

The prior art of record does not disclose or suggest either in singularly or in combination the following limitations and other elements in the claims:

Reference Shizukuishi does not disclose:

- A buried region of a first conductivity type that is formed in the pixel-forming region and that includes a first partial buried region formed at a relatively deep position and having a relatively low impurity concentration and a second partial buried region formed at a relatively shallow position and having a relatively high impurity concentration, a junction region between the first partial buried region and the pixel-forming region forming the photodiode, the second partial buried region forming the accumulation region.
- The first gate electrode having a substantially annular shape.

Therefore, the above references do not disclose the claimed invention of present application and claims 3-7 are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wai-Sing Louie whose telephone number is (571) 272-1709. The examiner can normally be reached on 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Wsl
July 18, 2005.